second.[40] Such a dramatic decline in service will not go unnoticed and will undoubtedly be blamed on the competing CLEC as the speed decrease is a direct result of the customer's new CLEC-provided service.

64. Furthermore, in implementing the FCC's previous hot cut rule [CFR §51.319(d)(2)(ii)], the ILECs uniformly proposed to treat IDLC loops differently from standard hot cuts. The ILECs generally contended that IDLC loops would require additional time to provision, contended that the hot cut could not be coordinated from the central office, and proposed higher rates, longer intervals, and narrower coordination windows for loops served via IDLC (when compared to other types of loops, i.e., copper and UDLC). For example, the ILECs proposed surcharges – some more than $100 per loop – to provision IDLC hot cuts. SBC, for one, proposed hot cut prices for IDLC-served loops that are about $88 per loop, and which are between two and three times higher than hot cut rates for non-IDLC loops, *see* SBC pricing data provided as Exhibit 5 to our Declaration. SBC also proposed to restrict the available time-frame for a hot cut involving IDLC to Monday-Friday, 8:00AM to 5:00PM, compared to the expanded and premium time-frames that would be available for other hot cuts.[41]

---

[40] If the additional A/D conversion is combined with some other imperfection such as bridge tap, bad splices, poor installation or other electrical problems, speeds can dip well below 33.6 kbps. Likewise, if UDLC is not available and additional "pair-gain" equipment such as Digital Added Main Line ("DAML") is introduced to serve the customer, dial up speeds can drop even further, in some cases falling well below 16.6 kbps.

[41] SBC's proposed expanded and premium time-frames are as follows: (1) Defined Batch, FDT Expanded M-F 6AM-8AM; (2) Defined Batch, CHC Expanded M-F 6AM-8AM, 5PM-12AM, Sat 8AM-5PM; (3) Bulk Batch, FDT Expanded M-F 6AM-8AM, 5PM-12AM, Sat 8AM-12AM; (4) Bulk Batch, CHC Expanded same as Bulk Batch, FDT

65. In short, the presence of IDLC in the network and the ILECs' refusal to entertain more efficient options to unbundle IDLC-served loops pose substantial challenges to UNE-L. These substantial quality concerns, increased provisioning difficulties and substantial economic penalties associated with unbundling IDLC simply cannot be ignored or glossed over.

66. As they did in the state *TRO* proceedings, the ILECs can be expected to downplay the importance of IDLC-related impairment primarily by understating the proliferation of IDLC. The ILECs were keen in those proceedings to highlight the total percentage of loops served within a given state by IDLC (generally between 10% and 20%) and indicating that the CLECs would not encounter these types of problems for the vast majority of the customers. But the ILECs ignore the fact that IDLC is generally used in the suburbs and rural areas – rarely in highly concentrated urban areas – and hence, while only 20% of the <u>total</u> access lines in a state may be impacted, a far higher percentage of residential and very small business (*i.e.*, mass market) customers are impacted. Further, while only 20% of the total access lines in the state may be served by IDLC, in some wire centers, that percentage may be as high as 70%.

67. With one notable exception, the ILECs have asserted that information related to their IDLC penetration is confidential. Nonetheless, using data from the state-related proceedings, we demonstrated time and again a positive correlation between wire centers serving large numbers of residential and small business customers and the highest levels of IDLC proliferation. Unfortunately, the majority of that state-specific analysis is not

---

Expanded; (5) Bulk Batch, FDT Premium 12AM-6AM, Sat 12A-8AM; (6) Bulk Batch, CHC Premium same as Bulk Batch, CHC Premium.

available to us in this proceeding. Nonetheless, using wire-center specific IDLC data provided on Qwest's public website (available at http://www.uswest.com/cgi-bin/iconn/dlc.cgi),[42] we are able to demonstrate this point for a limited number of states. For example, in Colorado, Qwest has seventeen (17) wire centers in the downtown Denver area,[43] with an average of 83,751 total loops per wire center. The average percentage of total loops served by IDLC in these same 17 wire centers is 10.24%. In addition, the largest Denver wire center and the largest wire center in Colorado, DNVRCOMA, which has 150,223 total loops has 2% IDLC, well below the average for all Denver wire centers. By comparison, wire centers serving the Denver suburbs, wherein a high concentration of residential and small business customers are found, reflect markedly higher levels of IDLC. For instance, the Parker wire center - PRKRCOMA (a Denver suburb defined by sprawling housing developments and small, strip-mall based businesses), serving 49,150 total loops, contains 61% IDLC. Similarly, the Littleton wire center, LTTNCOHL, serving 63,546 total loops, contains 65% IDLC. The data for Arizona produces similar results. For instance, Qwest has eighteen (18) wire centers in the downtown Phoenix area,[44] with an average of 73,691 total loops per wire center. The average percentage of total loops served by IDLC in these same 18 wire centers is 7.6%. The largest of these wire centers (and the largest Qwest wire center in Arizona), PHNXAZNO, which serves 179,453 total loops, has 0% IDLC. By comparison, some Phoenix suburbs, wherein a high concentration of mass market

---

42 Qwest IDLC data by state and wire center is provided as Exhibit 7.

43 The 8-digit CLLI codes for these wire centers begin with "DNVR..."

44 The 8-digit CLLI codes for these wire centers begin with "PHNX..."

customers reside, contain much higher levels of IDLC. In the Paradise Valley wire center, PRVYAZPP, which serves 76,201 total loops, 68% of total loops are served by IDLC. Similarly, the Litchfield Park (LTPKAZMA) wire center, which serves 37,725 total loops, has an IDLC concentration of 57%. While this trend does not hold true in every suburban wire center, it is clear that the breadth and scope of problems associated with IDLC cannot be adequately glossed over as the ILECs will attempt to do in providing state-aggregated IDLC penetration figures. IDLC obstacles as they relate directly to mass market customers (the focus of the Commission's analysis in this proceeding), are far more prevalent than for other services in general (including enterprise customers where UNE-L is already being used). Furthermore, because CLECs have not to date actively targeted residential and small business customers using UNE-L on the grand scale required to replace UNE-P, it is fair to say that the breadth and scope of problems associated with IDLC with respect to serving mass market are yet to be fully understood.

68. In addition to the Colorado and Arizona examples above, Qwest's publicly available information tells a similar story for the remainder of its region. A summary of this data is presented below:

State	% of Total Loops that served by IDLC	Maximum % of IDLC in CO
Arizona	17%	68%
Colorado	15%	65%
Idaho	12%	52%
Iowa	3%	18%
Minnesota	8%	28%
Montana	17%	52%
Nebraska	5%	20%
New Mexico	15%	74%
North Dakota	9%	25%
Oregon	8%	52%
South Dakota	4%	23%
Utah	10%	53%
Washington	10%	51%
Wyoming	6%	46%

As the Table above illustrates, the highest percentage of loops served by Qwest IDLC technology, when aggregated at the statewide level, is 17%, however, the IDLC concentration in particular wire centers can be much higher, reaching as high as 74%. For example, in New Mexico, Qwest's network includes IDLC concentration levels equal to 15% state-wide, but contains individual wire center concentration ratios as high as 74%.[45] Similarly, Arizona, Montana and Colorado have state-wide IDLC concentrations of 17%, 17% and 15%, respectively, but contain wire centers with IDLC concentrations as high as 68%, 52% and 65%, respectively. While the table above lists only the wire center within each state with the highest percentage of IDLC, these wire centers are by no

[45] Identified by CLLI Code: SNFENM58

means outliers. Below we've provided a table highlighting the general composition of Qwest's Colorado network as it relates to IDLC penetration:

QWEST COLORADO IDLC STATISTICS

IDLC Penetration	Number of Wire Centers	Access lines served by COs with more than 20% IDLC
0% - 20%	137	
21% - 40%	18	1,059,843
41% - 60%	5	121,407
61% - 80%	3	165,355
81% - 100%	0	

The table above shows that out of the 163 Qwest wire centers in Colorado, 26 wire centers have IDLC concentrations higher than 20% (serving 1,346,605 loops). Five wire centers have IDLC concentrations between 41% and 60% and three wire centers have IDLC concentrations between 61% and 80%. IDLC concentration in other Qwest states breaks down similarly. We have included our state-by-state analysis in this regard as Exhibit 7 to this Declaration (included within that analysis is the original Qwest database downloaded from Qwest's public website). As we mentioned earlier, through our participation in state TRO-related proceedings across the country (more than 40 states) focused on confidential data that we cannot share in this proceeding, suffice it to say that data provided by BellSouth, SBC and Verizon were highly similar in terms of IDLC distribution to the data supplied publicly by Qwest (as such, our analysis above is relatively accurate for nearly any state in the U.S.).

To exacerbate this problem, all indications are that the number of ILEC customers served via IDLC is increasing, in some circumstances dramatically. This results

primarily from the fact that most packet-capable DLC platforms (platforms that support both voice and DSL functionality – generally considered to be "Next Generation" - DLC systems or "NGDLC") are integrated DLC platforms. Hence, as carriers like SBC and Verizon institute highly publicized DSL-based network upgrade initiatives like Project Pronto (meant to increase their geographic market capabilities for DSL), the number of IDLC terminals in their networks increase substantially. BellSouth's public network notifications, which are found on BellSouth's website,[46] for instance, demonstrate this point. These notifications show that copper facilities are being replaced with Fiber Optic cable and Digital Loop Carrier Systems throughout Bellsouth's territory. Importantly, BellSouth's notifications note that, "[a]fter this work is completed, metallic facilities from the Central Office to the affected area will no longer be available." The data I have compiled with regard to BellSouth's network notifications related to replacing copper facilities with fiber and digital loop carrier systems shows these notifications have dramatically increased over the last few years.[47] The table below shows the number of these network notifications BellSouth filed per month from January 2001 through August of 2004:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Notifications RE: Replacing Copper With Fiber/IDLC	No. of Notices RE: Replacing Copper With Fiber/IDLC Per Month	Total Notifications	% of Total Notices RE: Replacing Copper With Fiber/IDLC
2004	15	22	27	37	13	8	7	31	NA	NA	NA	NA	160	20.00	179	89.39%
2003	16	43	52	23	16	17	11	7	10	36	8	19	258	21.50	289	89.27%
2002	0	2	5	6	0	1	70	6	6	6	22	13	137	11.42	223	61.43%
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	94	0.00%

[46] http://www.interconnection.bellsouth.com/notifications/index.html.

[47] This data excludes revisions to pre-existing network notifications and notifications related to activities other than replacing copper with fiber/DLC systems.

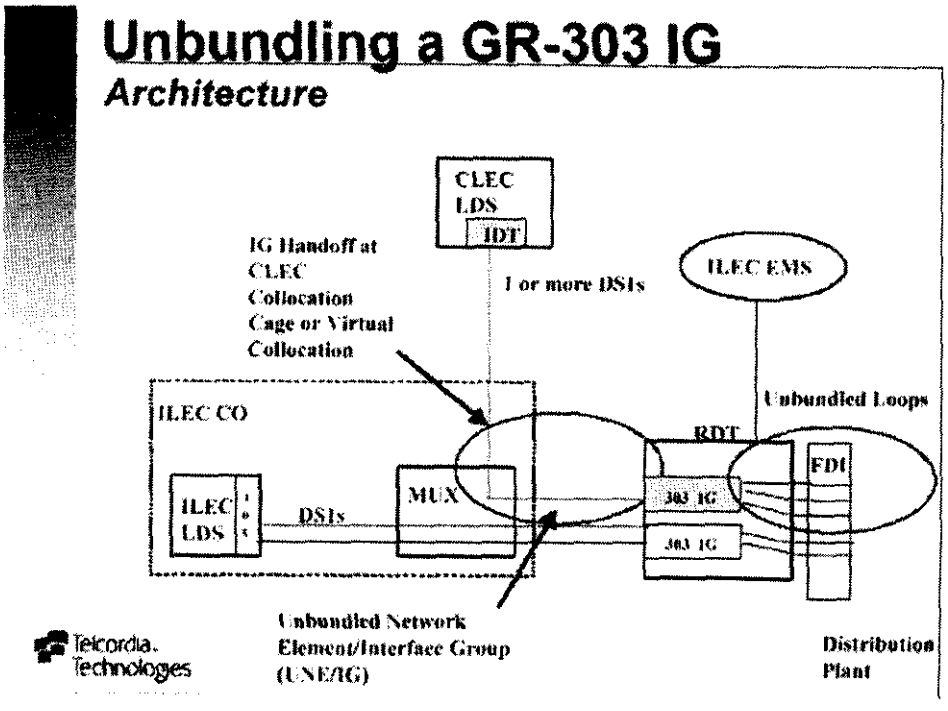
Since data was not available for all of year 2004, we calculated notices/month by dividing the total notices by the number of months where data for that year was available. In 2001, BellSouth did not file any notices related to replacing copper with fiber/DLC systems. In 2002, BellSouth filed 11.42 notices per month, and this number jumped to 21.5 per month in 2003, an 88.3% increase from the previous year. While all of the data is not in for year 2004, it appears that BellSouth is on track to keep up the rapid pace of replacing copper with fiber/IDLC it established in 2003. Indeed, notices related to replacing copper facilities with fiber/IDLC comprised 89.39% of total network notifications in 2004, compared to 89.27% in 2003 and 61.43% in 2002. Furthermore, the 555 notices of replacing copper with fiber/DLC issued by BellSouth between 2001 and 2004 comprises 71% of total notices of network changes posted by BellSouth during this time period.

69. There are currently available, technically feasible solutions that would permit unbundling of loops served by IDLC remotely, without a dispatch, and without moving the customer to alternate facilities. While the ILECs have constantly and consistently claimed that IDLC cannot be unbundled on an individual-line basis, their claims do not square with reality. The FCC itself has noted the technical feasibility of unbundling IDLC loops.[48] The GR-303 IDLC systems engineered and deployed today are capable of unbundling IDLC-served loops at the individual line level. Bellcore (now Telcordia), which developed the GR-303 interface, describes at least two methods by which GR-303

[48] *Triennial Review Order*, ¶297 n.855.

compliant IDLC can be unbundled electronically without requiring a dispatch or changing the underlying facility serving the customer.

70. The first method entails the establishment of separate Interface Groups ("IGs") at the IDLC remote terminal so that a distinct IG is assigned to a CLEC and passed through a multiplexing device in the central office for purposes of accessing individual lines at the DS0 or DS1 level. This particular unbundling strategy (referred to generally as "Multi-Hosting") has been discussed for years by industry bodies, and has in the past been supported by Telcordia in numerous symposiums. The following diagram depicting the manner by which this process would work was constructed by Telcordia and provided to the industry in one of its GR-303 symposiums in the late 1990s.



Source: Telcordia's GR-303 Access Symposium binder, Tab 4, August 11, 1999

71. Telcordia also describes another method that uses a side-door port on the ILEC's digital switch for purposes of accessing individual DS0s for transfer to the CLEC's switch. The diagram below shows the use of a GR-303 Interface Group sharing ILEC and CLEC traffic wherein all CLEC traffic is routed through a side-door port, supporting a DS1 or DS0 unbundling scenario. This drawing is also taken from Telcordia documentation, a recent issue of Telcordia's Notes on the Network, a leading source of engineering documentation relevant to today's telecommunication network. [49]

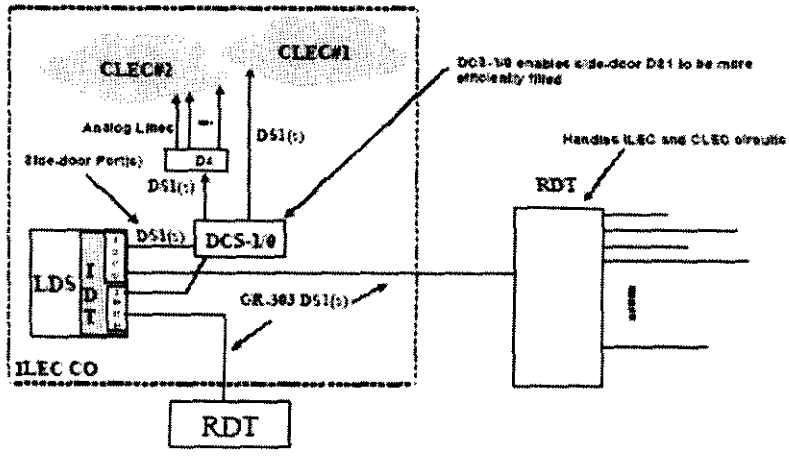


Figure 12-36. IDLC Unbundling Using Sidedoor Port

72. In the scenario above, unbundled CLEC loops are provisioned as non-locally switched circuits within the IDLC system. Telcordia describes this application as follows:

> While the digital system cross-connect ("DCS"), DCS-1/0, is shown in the figure, it is not a requirement of this architecture. The advantage of using a DCS-1/0 is realized if the CLEC is not fully utilizing a DS1 from the ILEC local digital switch (LDS) to the CLEC, and multiple switch

[49] Examples taken from: Telcordia *Notes on the Networks*, Issue 4, October 2000.

> modules with individual digital control units (IDCU) are used by the ILEC. If a DCS-1/0 is placed between the LDS DS1 side-door port and the CLEC DS1s, it would permit full utilization of the side-door LDS/IDCU hardware by enabling CLEC DS0s to be rearranged in the DCS-1/0 and placed on the individual CLEC DS1s."
> (See *Notes on the Networks* at Section 12-56).

73. Not only would either of these methods provide a CLEC unbundled access to the same customer loops the customer enjoys today, without a technician dispatch, it would also mitigate (if not remove entirely) the need for manual intervention in the loop provisioning process (*i.e.*, the "hot cut"). Because GR-303 IDLC systems are largely software driven and do not rely upon manual copper wire manipulation for purposes of cross-connecting the derived circuits they support, unbundled loops could be provisioned to a CLEC on an electronic basis, free of any costly or time consuming technician dispatch. As such, this type of IDLC unbundling would go a long way toward providing non-discriminatory access to unbundled loops by doing away with the manually intensive and cumbersome hot cut processes for IDLC-served loops supported by the ILECs.

74. In the past, ILECs have spent considerable time and effort discounting the many methods by which Telcordia and numerous equipment manufactures have described unbundling IDLC (even when the very IDLC equipment used by the ILECs is produced by manufacturers, such as Alcatel, who have described the feasibility of these very same unbundling options).[50] The ILECs have time and again highlighted obstacles that exist in unbundling IDLC, and instead of embracing the benefits such unbundling could provide, they have consistently opted instead to consider the entire notion

---

[50] *See* "Unbundling Solutions" prepared by DSC Communications (subsequently purchased by Alcatel). Whitepaper obtained from http://www.dsccc.com/unbund.htm on 6/7/00. Copy provided as Exhibit 8 to this Declaration.

technically infeasible. The ILECs' arguments in this regard, however, should once and for all be dismissed. The Commission should push for progress toward standardized IDLC unbundling obligations. The obstacles posed by the ILECs' approach to IDLC unbundling are simply too large to ignore. Further, additional information is now available further supporting IDLC unbundling and putting to rest, once and for all, unsupported ILEC rhetoric regarding technical feasibility.

75. In a recent Public Notice pursuant to CFR §51.329(a) and in a pending interconnection agreement with GCI, Alaska Communications Systems ("ACS") has recently indicated its willingness, and ability, to provide Multi-hosting arrangements to its CLEC interconnectors where GR-303 capable DLC systems have been deployed. Specifically, the company's August 3, 2004 Public Notice to CLECs states that it will be placing a new IDLC system in the general vicinity of the Anchorage airport, and that "on or after February 4, 2005, all transport from the [new] DLC system will be integrated into the ACS switch."[51] Wherein such integration would normally require CLECs to seek alternative facilities (as is required by the RBOCs), ACS indicates that "CLECs will be able to access loops by Multi-hosting ACS of Anchorage, Inc.'s GR-303 DLC System." This public notice is consistent with contract language currently agreed to between ACS and GCI wherein GCI will be allowed to access, through a multi-hosting arrangement, UNE loops from IDLC remote terminals (it is our understanding that certain portions of

[51] Public Notice available at the following URL: http://www.acsalaska.com/_pageContent/regulatory/NCN/329/ACS_NCN_08-03-2004_INAP%20A%20ST.pdf.

the interconnection agreement not affected by IDLC are still being finalized and hence, the actual contract is not yet available).

76. Similarly, in an effort to remove itself from obligations related to UNE switching in state-specific *TRO*-related proceedings (e.g., Docket No. 17749-U before the Georgia Public Service Commission) BellSouth finally identified eight IDLC unbundling options that it would pursue, if need be, to provide access to unbundled loops. Those options included, for example, the use of a side door port, or "hair-pinning." BellSouth stated that where an "IDLC terminates at a switch peripheral that is capable of serving "side-door/hairpin" capabilities; BellSouth will utilize this switch functionality. Furthermore, Qwest provided evidence in the Batch Hot Cut Proceedings showing that Qwest can not only unbundle loops via hairpinning, but also that Qwest has actually unbundled loops in this manner, in small quantities.[52] Though these admissions related to the feasibility of IDLC unbundling were made in an attempt to avoid UNE switching obligations, their import should not be overlooked. The Commission has substantial evidence upon which to base a finding that IDLC unbundling is technically feasible, and to require that CLECs finally be granted non-discriminatory access to IDLC facilities on an unbundled basis, rather than be relegated to copper or less effective UDLC facilities. These IDLC unbundling options are available, and if implemented correctly, could overcome many of the manual worksteps that plague the incumbents' existing (and proposed) hot cut processes and generate a good deal of the impairment standing in the way of an effective UNE-L delivery strategy.

---

[52] *See, e.g.,* Qwest's Proposal for a Region-Wide Batch Loop Conversion Process, Colorado Docket No. 03I-485T, BHCP – Exhibit 5.

77. The mechanization technologies we have described above should be distinguished from the Electronic Loop Provisioning (ELP) proposal that AT&T has pursued and that was discussed by the FCC in its *TRO*. While we agree wholeheartedly with AT&T's recommendation to increase the level of automation in the hot cut process, unlike the AT&T proposal, the technology discussed by MCI relies upon the circuit-switched nature of the existing infrastructure. AT&T's ELP solution appears to require a fundamental shift from circuit switched technology (i.e., IDLC and automated frame technology) to a packet-based platform (i.e., ATM). As such, the costs of MCI's approach are likely to be substantially less than those attributed to the AT&T approach.[53] Nonetheless, the cost of acquiring additional mechanization in the hot cut process is an area wherein the ILECs are likely to spend a good deal of their energy in opposition to any of these proposals.

V. CONCLUSION

78. Using the ILECs' facilities in combination, via UNE-P, effectively mitigated a number of operational issues that arise in earnest when attempting to access a stand-alone unbundled loop in a UNE-L architecture. In large part, UNE-P allowed CLECs to share in the operational efficiencies of an integrated network, just as the ILECs rely upon their integrated networks to provide retail services. Those efficiencies, however, are largely lost when the loop is unbundled and made available as a stand-alone UNE. This loss of

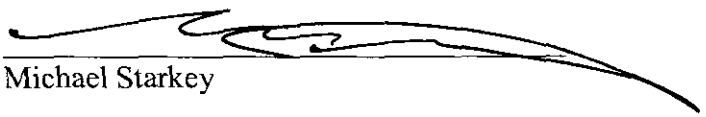
[53] When addressing mechanization technologies at ¶ 491 of the TRO, the "fundamental change" and "significant and costly upgrades" to which the FCC refers pertain to AT&T's ELP proposal.

efficiency is evident most readily in the fundamental process by which the loop is accessed. Rather than accessing the loop using the ILEC's own integrated switch port as accomplished via UNE-P, UNE-L requires a material network manipulation (*i.e.*, a hot cut) aimed at physically re-routing the loop from the ILEC network to collocated CLEC equipment. Substantial operational obstacles arise from this physical re-routing primarily because the ILECs have not developed efficient or effective means by which to accomplish it (indeed, in many circumstances, the ILECs have strenuously objected to processes that would make the entire process more efficient). These operational realities manifest in higher costs, longer provisioning times and an increased probability of error faced by CLECs relying upon UNE-L. While these obstacles can, and have, been overcome where the potential customer brings with it large revenues and high margins (i.e., enterprise customers), these operational barriers have made the UNE-L provisioning process nearly impossible to standardize for purposes of a mass market offering. ILEC efforts aimed at improving these processes (instigated largely in response to the FCC's *TRO* order), have done little to change the fundamental problem primarily because they fail to recognize it effectively. That is, rather than recognize the fact that the primary obstacle is a lack of mechanized processes, the ILECs pay blind allegiance to existing manual processes (i.e., hot cuts) that they themselves have worked diligently to avoid in providing their own retail services. And while they have paid lip service to improving those manual processes, the ILECs have fundamentally refused to consider the underlying problem of increased mechanization. At the most basic level, it is the ILECs' unwillingness to develop (or even discuss) additional mechanization in the UNE-L provisioning process (including hot cuts as well as more general areas of loop

provisioning) that generates the multiple problems that we describe in detail in this Declaration (i.e., accessing IDLC, lack of UNE-L scalability, excessive rates and costs generated from manual intervention, etc.).

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 27, 2004.



Michael Starkey

I declare under penalty of perjury that the foregoing is true and correct.

Executed on Sept 27, ____, 2004.

Sidney L. Morrison

MICHAEL STARKEY AND SIDNEY MORRISON DECLARATION

EXHIBIT 1

CURRICULUM VITAE OF MICHAEL STARKEY AND SIDNEY MORRISON

MICHAEL STARKEY
Professional Information

Contact Information:

QSI Consulting, Inc.
243 Dardenne Farms Drive
St. Charles, Missouri 63366

phone: 636.272.4127
fax: 636.272.4129

e-mail: mstarkey@qsiconsulting.com

Current Position:

President and Founding Partner, QSI Consulting, Inc.

Professional Experience:

Competitive Strategies Group, Ltd.
Founding Partner
Senior Vice President and Managing Director of Telecommunications Services

Maryland Public Service Commission
Telecommunications Division
Director

Illinois Commerce Commission
Office of Policy and Planning
Senior Telecommunications Policy Analyst

Missouri Public Service Commission
Utility Operations Division
Telecommunications Department
Economist

Education:

B.S. Economics / International Marketing
- Southwest Missouri State University, Springfield, Missouri
- *Cum Laude* Honor Graduate

Graduate Coursework, Finance
- Southwest Missouri State University, Springfield, Missouri
- Lincoln University, Jefferson City, Missouri

Numerous telecommunications industry training courses and classes

MICHAEL STARKEY
Professional Information

Professional Activities

- Facilitator, *C³ Coalition* (Competitive Carrier Coalition - Ameritech Region). Facilitate industry organization representing 10-15 competitive carriers seeking to share information and "best practices" with respect to obtaining effective interconnection, UNEs and resold services from SBC/Ameritech.
- Former member of the Missouri Public Service Commission's Task Force on FCC Docket Nos. 91-141 and 91-213 regarding expanded interconnection, collocation, and access transport restructure
- Former member of the AT&T / Missouri Commission Staff, *Total Quality Management Forum* responsible for improving and streamlining the regulatory process for competitive carriers
- Former member of the Missouri, Oklahoma, Kansas, Texas, and Arkansas five state Southwestern Bell Open Network Architecture (ONA) Oversight Conference
- Former delegate to the Illinois, Michigan, Indiana, Ohio, and Wisconsin Ameritech Regional Regulatory Conference (ARRC) charged with the responsibility of analyzing Ameritech's "Customers First" local exchange competitive framework for formulation of recommendations to the FCC and the U.S. Department of Justice
- Former member of both the Illinois and Maryland Local Number Portability Industry Consortiums responsible for developing and implementing a permanent database number portability solution

Testimony Profile and Experience

I have provided pre-filed written testimony, an expert report or provided live testimony in various proceedings before the Federal Communications Commission and the following state commissions: Illinois Commerce Commission, Public Utility Commission of Texas, Public Service Commission of Wisconsin, Connecticut Department of Public Utility Control, Public Utilities Commission of South Carolina, Michigan Public Service Commission, Missouri Public Service Commission, Indiana Utility Regulatory Commission, Public Utility Commission of Ohio, New York Public Service Commission, Pennsylvania Public Utility Commission, North Carolina Utility Commission, Louisiana Public Service Commission, Washington Utilities and Transportation Commission, Alabama Public Service Commission, Tennessee Regulatory Authority, Public Utilities Commission of the State of Hawaii, Public Utilities Commission of the State of California, Colorado Public Utilities Commission, Delaware Public Service Commission, Georgia Public Service Commission, New Jersey Board of Public Utilities, Public Service Commission of the Commonwealth of Kentucky, Florida Public Service Commission, Public Utility Commission of Oregon, New Mexico Public Regulation Commission, South Carolina Public Service Commission, Massachusetts Department of Public Utilities, Corporation Commission of the State of Oklahoma, Public Service Commission of the State of Mississippi, and Maryland Public Service Commission.

SIDNEY L. MORRISON
Professional Information

Contact Information

QSI Consulting, Inc.
550 Planters Ridge Drive
Sunset Beach, North Carolina 28468

phone: 910-575-4616
cellular: 910-471-4616
fax: 910-575-45269

e-mail: smorrison@qsiconsulting.com

Current Position

Senior Consultant, QSI Consulting, Inc. December 2000 to Present

Professional Experience

DiAx Telecommunications
Zurich, Switzerland

Project Coordinator, Operations Support Systems
Senior Consultant

OSP Consultants
Denver, Colorado

Central Office Equipment Engineer
Nextlevel 3 VDSL Broadband

Competitive Strategies Group Inc
Chicago Illinois

Technical Consultant
Microwave facilities analysis

CDI Telecommunications
Denver, Colorado

Collocation Engineer
Telecommunications Engineer Training
Central Office Engineer
Outside Plant Engineer

Binariang Sdn. Bhd.
Kuala Lumpur, Malaysia

Senior Manager, Network Operations
Fixed Network Facilities Service Center
GSM Facilities Consultant

Power Engineers
Denver, Colorado

SIDNEY L. MORRISON
Professional Information

Outside Plant Engineering Consultant

Tele-Matic Corporation
Englewood, Colorado
Director Data Services

US WEST
Denver, Colorado
Manager

Southern Bell
Charlotte, North Carolina
Cable Splicer
Central Office Technician
Special Services Technician

United States Air Force
Lowery Air Force Base, Denver, Colorado
Nuclear Weapons/Reentry Vehicle Technician

Computing Skill Set

Hardware Experience: Mini-Computers, Personal Computers, Expansion Devices, Client Server, Workstations, HP Scanners, Novell & Lantastic Networks

Software Application Experience: CAD Applications COEFM, CIMAGE, CPD, TIRKS, COSMOS, LFAC, DOS, OS/2 2.0/Warp 3.0, UNIX, REXX programming language, Paradox, Dbase III, MS Word/Excel/Project, Visio, Wordperfect 6.0 DOS and Windows 3.X, Windows 95, 98 2000 & NT, Harvard Graphics, Pagis, XTALK, ProCom, Application script files

Areas of Expertise

DiAx Telecommunications; Zurich, Switzerland May 1999 to December 2000
Project Coordinator/Manager

- Responsible for the development of customer requirements for the Lucent fault management systems; Network Fault Manager (NFM), Actiview and Trouble Manager as an integrated system for diAx
- Managed the project to completion within the allocated budget and time frames
- Developed and implemented business processes to support provisioning and maintenance of IP-VPN data services
- Planned and implemented the diAx Internet Provider Operations Center
- Trained internet engineers on the processes and detail engineering required for telecommunications central office based infrastructure

OSP Consultants Inc.; Phoenix, AZ /Sterling, VA. October 1998 to May 1999
Consultant; CO transmission engineer

- Provide CO engineering for Very High Bit Rate Digital Subscriber Line Carrier (VDSL) utilizing Nextlevel 3 Broadband Data Terminal equipment, including, floor plan equipment placement, cable racking, power, and integration into outside plant (OSP) facilities and distribution networks
- Project manager CO VDSL installation, procurement and Central Office Equipment Facilities Management

SIDNEY L. MORRISON
Professional Information

(COEFM) engineering process, MOP development, CO installation Design Work Package
- Provide source information on quality control for CO installers
- Provide input information for TIRKS Equipment & Facilities records
- Maintain project progress reports for customer

Competitive Strategies Group; Chicago, IL / Denver, CO October 1998 to May 1999
Consultant: Competitive Local Exchange Carrier (CLEC) Operations & Engineering
- Technical analysis of network facilities & switching (microwave, fiber & Nortel switches)
- Network operations analysis and procedures recommendations for CLEC operators

CDI; Englewood, CO October 1997 to September 1998
Consultant: Outside Plant Engineering
- OSP design engineer; facility placement, copper/fiber/field Electronics
- OSP Facility distribution makeup engineering
- Maintain mechanized records systems for CO and OSP
- Common Systems Planning and Engineering (CSPEC): Power/Frames/Cable Rack/Floor Space/CLEC Collocation Planner
- Training course development and presentation for new hire CO/OSP engineers
- Courses developed and presented, Basic Conventional Communications, CO Switching, OSP Design, Numbering & Routing, for fixed networks and wireless

Binariang Sdn. Bhd., Subang Hi-Tech, Shah Alam, Malaysia December 1995 to June 1997
Senior Manager: Network Operations, Fixed Network Facilities Service Center (FSC) & GSM Facilities Consultant
- Project Managed the planning and implementation of the fixed network provisioning organization including installation and maintenance, assignment and repair organization for telephony, CATV and data
- Project managed the implementation of GTE World Win OSS for provisioning & maintenance of fixed network & CATV
- Developed fixed network operations acceptance criteria for Copper Cables, Hybrid Fiber Coaxial (HFC) Facilities, Subscriber Line Carrier (SLC), Remote Switching Systems (RSS) and Community Antenna Television (CATV) nodes
- Developed operations requirements for switched and leased line services
- Planned, wrote and implemented Southeast Asia's first telecommunications ISO 9002 process for fixed network operations
- Project managed the implementation of an operations field support group for Hybrid Fiber Coaxial (HFC) network

Binariang Sdn. Bhd., Subang Hi-Tech, Shah Alam, Malaysia May 1995 to December 1995
Consultant: Network Operations GSM facilities Consultant
- Project managed the development and implementation of contractor specifications for Global System for Mobile Communications (GSM) and Base Transceiver Site (BTS) construction (cabin, cabinet, tower, pad, cable racking, antenna attachment hardware, grounding, lightning protection, UPS power and electrical)
- Trained contractors and local managers on specifications and quality requirements for site acceptance
- Developed acceptance check list and performed acceptance on the first sixty GSM/BTS sites

Power Engineers March 1995 to May 1995
Consultant: Outside Plant Engineering
- Facility design and placement
- Customer service request analyst

Tele-Matic Corporation February 1993 to November 1994
Director: Data Service
- Planned and directed the activities of the data center department including 2 managers and 10 data center technicians
- Coordinated Automatic Message Accounting (AMA) billing activities with Tele-Matic partners i.e. AT&T, U S WEST, Bell Atlantic, South Western Bell, and other RBOCs for inmate type telephone services
- Negotiated AMA data structures, quality and timely delivery for billing systems

SIDNEY L. MORRISON
Professional Information

- Developed automation concepts for data services software systems
- Planned and directed the implementation of advanced architecture (intelligent networks, servers & workstations)

U S WEST August 1988 to January 1993
Manager: Teleprocessing
- Managed AMA Teleprocessing activities for the U S WEST fourteen state region
- Planned the consolidation of operating centers from seven to four
- Project managed the development and implementation of the U S WEST Oasis network operations support system for AMA

- Directed and managed the activities of PC support personnel
- Provided technical support for the corporate legal department

U S WEST February 1985 to July 1988
Manager: Switching Control Center Corporate Support
- Project managed the selection and implementation of switching maintenance and provisioning operational support system
- Provided technical support for Network Switching Control Centers and Essential Power Systems
- Managed the development of switch operations support systems for center operations
- Directed the activities of 12 staff subordinates responsible for switch vendor specific electronic switching support

U S WEST June 1978 to January 1985
Manager: Network Switching
- Managed U S WEST central office operations responsible for data, special services and local service provisioning
- Project manager for the Denver Curtis Park Area Cut, approximately 30K lines and 12K special services cut from two central office areas
- Planned and implemented new Main Distributing Frame technology in the Denver Main Wire Center
- Operations consultant for U S WEST land use study and business case for southeast Denver metropolitan area
- 16 direct report supervisors and 115 technicians

U S WEST December 1972 to May 1978
Manager: Network Operations
- Supervised central office mainframe operations responsible for local and special services provisioning
- Project manager for the Denver Capital Hill Area Cut, approximately 18K lines & 8K Special Services cut

Mountain Bell/Southern Bell November 1966 to November 1972
Technician: Switching Services
- Special Services Data Technician, Central Office Technician, Cable Splicer and Cable Helper

United States Air Force September 1961 to April 1965
- Nuclear Weapons Technician (Reentry Vehicles) Honorable Discharge

Testimony Profile and Experience

I have provided pre-filed written testimony, an expert report or provided live testimony in various proceedings before the following state commissions: New Jersey Board of Public Utilities, Wisconsin Public Service Commission, Public Service Commission of Wyoming, Arizona Corporation Commission, Public Utilities Commission of Colorado, Massachusetts Department Of Telecommunications And Energy, Washington Utilities And Transportation Commission, Florida Public Service Commission, Indiana Utility Regulatory Commission, New Mexico Public Regulation Commission, North Dakota Public Service Commission, Public Utilities Commission Of South Dakota, Illinois Commerce Commission, Indiana Utility Regulatory Commission, Michigan Public Service Commission, New York Public Service Commission, Rhode Island And Providence Plantations Public Utilities Commission, and Maryland Public Service Commission.